

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

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Vorderberg 11  
CH-8044 Zürich  
SUISSE

9 - MRZ. 2005

PCT

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9.3.2

WRITTEN OPINION

(PCT Rule 66)

Date of mailing  
(day/month/year)

02.03.2005

Applicant's or agent's file reference  
08020PC

REPLY DUE

within 3 month(s)  
from the above date of mailing

International application No.  
PCT/IB 03/02541

International filing date (day/month/year)  
06.06.2003

Priority date (day/month/year)  
06.06.2003

International Patent Classification (IPC) or both national classification and IPC  
B01J20/18

0206

Applicant  
ZEOCHEM AG et al.

1. This written opinion is the **first** drawn up by this International Preliminary Examining Authority.
2. This opinion contains indications relating to the following items:
  - I ☒ Basis of the opinion
  - II ☐ Priority
  - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV ☒ Lack of unity of invention
  - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☐ Certain observations on the international application
3. The applicant is hereby **invited to reply** to this opinion.
 

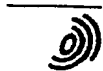
**When?** See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

**How?** By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

**Also:** For an additional opportunity to submit amendments, see Rule 66.4.  
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.  
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 06.10.2005

Name and mailing address of the international preliminary examining authority:



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10/559754

WRITTEN OPINION

International application No. PCT/IB 03/02541

APPROVED BY 06 DEC 2005

I. Basis of the opinion

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed"*):

**Description, Pages**

1-15 as originally filed

**Claims, Numbers**

25 as originally filed

1-24 received on 18.02.2005 with letter of 16.02.2005

**Drawings, Sheets**

1-4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

5. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

6. Additional observations, if necessary:

**IV. Lack of unity of invention**

1. In response to the invitation (Form PCT/IPEA/405) to restrict or pay additional fees, the applicant has:

- ☒ restricted the claims.
- ☐ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

2. ☒ This Authority found that the requirement of unity of invention is not complied with for the following reasons and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees:

**see separate sheet**

3. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this opinion:

- ☒ all parts.
- ☐ the parts relating to claims Nos. .

**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims	1-4,10-13
Inventive step (IS)	Claims	1-16
Industrial applicability (IA)	Claims	

**2. Citations and explanations**

**see separate sheet**

**IP16** RECEIVED 06 DEC 2005

**Re Item IV**

**Lack of unity of invention**

- 1). Reference is made to the following documents:

D1=EP-A-503876  
D2=EP-A-403141  
D3=EP-A-541101  
D4=US-A-510776  
D5=SU-A-127446  
D6=WO-A-00/71249  
D7=EP-A-511885  
D8=US-A-5057473  
D9=US-A-6103949  
D10=US-A-4404118  
D11=US-A-4098684

- 2). This Authority considers that there are three inventions covered by the claims indicated as follows:

- I: Claims 1-13 directed to a process to produce a phosphate treated zeolite and its product  
II: Claims 14-16 directed to a process for adsorbing organic sulfur compounds with a phosphate treated zeolite  
III: Claims 17-24 directed to a desorption process for the desorption of organic sulfur compounds from a phosphate treated zeolite

The reasons for which the inventions are not so linked as to form a single general inventive concept, as required by Rule 13.1 PCT, are as follows:

The common concept linking together the independent claims (1,13), (14) and (17,18,21) is the following:

A phosphate treated faujasite according to claim 13

This common concept is not novel, see documents D1, D2, D3, D4 and D9 (explained in point 3 below).

The application, hence does not meet the requirements of unity of invention as defined in Rules 13.1 and 13.2 PCT.

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

- 3). D1, D2, D3, D4 and D9 disclose a process to produce a formed faujasite according to claim 1 and the resulting phosphate treated faujasite according to claim 13, see D1: claims 1,2,7,9,11,12; examples 1-6,12 and D2: claims 1,3-5; page 5, lines 3-24 and D3: claims 1,3,4,9,11; examples 1-6,12 and D4: claims 1,2; page 3, lines 16-35, 43-46; page 4, lines 8-10 and D9: claim 1; column 7, lines 23-25.

The additional features of dependent claims 2 - 4, 10 - 12 are also known from D1, D2, D3, D4 and/or D9.

Therefore claims 1 and its dependent claims 2 - 4, 10 - 12 do not fulfil the requirements of Article 33(2) PCT (novelty).

The additional features of dependent claims 5 - 9 do not appear, in combination with the features of any claim to which they refer, to involve an inventive step.

Therefore dependent claims 5 - 9 of the application do not fulfil the requirements of Article 33(3) PCT (inventive step).

- 4). D5, D6, D7, D8, D10 and D11 disclose that adsorbing low molecular weight sulfur compounds from a gaseous or liquid stream by means of a faujasite molecular sieve, see: D5: abstract and D6: claims 1,10,21; page 19, lines 14-21 and D7: example 3 and D8: column 9, lines 30-61 and D10: example 4; column 5, lines 53-68 and D11: column 4, lines 40-63; claims 1,4.

None of these documents D5, D6, D7, D8, D10 and D11 disclose phosphor treated faujasite molecular sieves. Since it has not been shown that phosphor treated faujasite molecular sieves are improved adsorbents for low molecular weight sulfur compounds, the subject-matter of claims 14-16 lacks an inventive step (Article 33(3))

**WRITTEN OPINION  
SEPARATE SHEET**

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International application No. PCT/IB 03/02541

PCT ).